

Forest Insect and Disease Management Group, S&PF  
2500 Shreveport Highway  
Pineville, Louisiana 71360

5230 Evaluation

May 27, 1977

Visit to check Comandra Blister Rust

Forest Supervisor  
Ozark-St. Francis N.F.

ATTENTION: Dan Cramsey

On May 17 and 18 Paul Peachier and Melvin Weiss visited the Bayou and Buffalo Ranger Districts looking for comandra blister rust. They were accompanied by Lou Ebling and Lester Rose when visiting the Bayou District on the 17th. On the 18th, Bill Henely and James Dear accompanied them on the Buffalo District. The purpose of the visits was to check the status of the pine disease, comandra blister rust.

Comandra blister rust, caused by the fungus, Cronartium comandrae Pk., is a canker disease of hard pines. In the western United States it has been known for more than 85 years. In the South, comandra rust occurs on shortleaf and loblolly pines. The rust was probably accidentally introduced in the South by the introduction of infected nursery stock.

Comandra blister rust, like most rusts, requires an alternate host to complete its life cycle. The alternate hosts for this rust are herbaceous plants of the genus Comandra, commonly called false or bastard toadflax. These small (6-8 inches in height) leafy perennials are widespread across the United States, and are commonly parasitic on the roots of the genus Quercus.

In 1962, comandra rust was found infecting shortleaf pine seedlings on the Ketcherside Experimental Area of the Buffalo Ranger District. This was the first time this disease had been reported in Arkansas. Silvicultural experiments in converting hardwood stands to pine had been done in this experimental area, and shortleaf pine was established by direct seeding in 1958.

The Division of Forest Pest Control established three evaluation plots in the infected area in 1962. The plots were designed to determine whether comandra rust was increasing or decreasing in severity, and how much mortality resulted.

These plots were checked five times over a six-year period and were discontinued in May 1967. Disease intensification within the plots increased greatly from 1962 to 1964, but from 1964 on infections decreased each year until near stabilization in 1967. Cumulative pine mortality in the plots for the six-year period was 44 percent. The decrease in new rust infections was attributed in part to the effect of crown closure on the survival of the alternate host. The increased shading apparently caused the death of toadflax plants growing in the area.

In April 1968, the Division of Forest Pest Control conducted a survey to determine the distribution of comandra rust on the Ozark National Forest. Results of the survey showed the disease to be present in all districts. Nineteen percent of all shortleaf pine stands surveyed, 10 years and younger, were infected with comandra rust. The disease seemed to be more severe on direct seeded areas.

During this visit, no comandra rust or toadflax was found on the Bayou Ranger District. Some areas were checked where it had been found in 1968, and if it still exists, it is apparently causing no mortality.

On the Buffalo Ranger District, some comandra rust and toadflax were found where it was first discovered in 1962. There was no indication of any significant problem. Two plantations that were planted in the last few years were also checked. The site preparation method had left mineral soil and open areas which are conducive to toadflax establishment. There were no indications that pines in these areas were infected or ever had been infected.

Personnel from the office of Forest Insect and Disease Management would like to spot check a few new plantations, plus old areas of comandra blister rust infection in the spring of 1978. This disease is easily seen at the time the cankers on pines start fruiting, which is usually late April or early May on the Ozark. The fungus fruits for approximately two weeks. We will contact the Supervisor's Office next spring to schedule this evaluation.

Thanks for the help in checking these old rust areas. We look forward to working with you again next spring. If you have any questions or comments, please give us a call.

ROBERT C. LOOMIS

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cc: M. J. Weiss